

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A piezoelectric/electrostrictive film type actuator comprising:
 - a ceramic substrate comprising a plurality of laminated thin plate layers and having a cavity formed in an internal portion thereof; and
 - a piezoelectric/electrostrictive device disposed on one surface of said ceramic substrate and including a plurality of piezoelectric/electrostrictive films and electrode films;

wherein said piezoelectric/electrostrictive films and said electrode films are alternately laminated such that electrode films form uppermost and lowermost layers of said piezoelectric/electrostrictive device; and

wherein said actuator is driven by displacement of said piezoelectric/electrostrictive device such that said uppermost electrode film moves and said cavity is pressurized by deforming a part of a wall thereof with said piezoelectric/electrostrictive device;

wherein a thickness of said piezoelectric/electrostrictive device, when viewed in cross-section, decreases from a central portion thereof toward opposite outer portions thereof; and

wherein an upper surface of said piezoelectric/electrostrictive device, when viewed in cross-section, has a convex arcuate shape, and a radius of curvature of said convex arcuate shape originates from a point located below said one surface of ceramic substrate.

2. (Previously Presented) The piezoelectric/electrostrictive film type actuator according to claim 1, wherein said piezoelectric/electrostrictive device includes two to four layers of said piezoelectric/electrostrictive films.

3. (Previously Presented) A piezoelectric/electrostrictive film type actuator comprising:

a ceramic substrate; and

a piezoelectric/electrostrictive device disposed on said ceramic substrate and including a plurality of piezoelectric/electrostrictive films and electrode films;

wherein said piezoelectric/electrostrictive films and said electrode films are alternately laminated such that electrode films form uppermost and lowermost layers of said piezoelectric/electrostrictive device;

wherein a thickness t_n of an n-th piezoelectric/electrostrictive film from the bottom of said piezoelectric/electrostrictive device satisfies the following equation: $t_n \leq t_{n-1} \times 0.95$; and

wherein said actuator is driven by displacement of said piezoelectric/electrostrictive device.

4. (Previously Presented) The piezoelectric/electrostrictive film type actuator according to claim 1, wherein a per layer thickness of said piezoelectric/electrostrictive films is 30 μm or less.

5. (Previously Presented) The piezoelectric/electrostrictive film type actuator according to claim 1, wherein at least one layer of said piezoelectric/electrostrictive films is formed by electrophoresis deposition.

6. (Previously Presented) The piezoelectric/electrostrictive film type actuator according to claim 1, comprising two or more of said piezoelectric/electrostrictive devices disposed on said ceramic substrate.

7. (Cancelled).

8. (Previously Presented) The piezoelectric/electrostrictive film type actuator according to claim 1, wherein said ceramic substrate comprises two or three laminated thin plate layers.
9. (Previously Presented) The piezoelectric/electrostrictive film type actuator according to claim 1, wherein a thickness of a thinner portion of said ceramic substrate is 50 μ m or less.
10. (Previously Presented) The piezoelectric/electrostrictive film type actuator according to claim 1, wherein said ceramic substrate comprises a material selected from the group consisting of materials containing zirconium oxide, aluminum oxide, magnesium oxide, aluminum nitride, and silicon nitride as a major component.
11. (Previously Presented) The piezoelectric/electrostrictive film type actuator according to claim 1, wherein said ceramic substrate comprises a material containing either partially stabilized zirconium oxide or completely stabilized zirconium oxide as a major component.
12. (Previously Presented) An ink pump of a printer head disposed in an ink jet printer comprising the piezoelectric/electrostrictive film type actuator according to claim 1.
13. (Previously Presented) A piezoelectric/electrostrictive film type actuator comprising:
a ceramic substrate having a cavity formed in an internal portion thereof; and
a piezoelectric/electrostrictive device disposed on one surface of said ceramic substrate and including a plurality of piezoelectric/electrostrictive films and electrode films;

wherein an uppermost one of said electrode films moves and said cavity is pressurized by deforming a part of a wall thereof with said piezoelectric/electrostrictive device; and

wherein said piezoelectric/electrostrictive film type actuator is formed by a method comprising the steps of:

preparing a green sheet laminate including at least one green sheet as a substrate and one or more green sheets each having at least one hole portion formed therein;

sintering said green sheet laminate to obtain a ceramic laminate;

forming an electrode film (A) on an outer surface of said ceramic laminate by a first film forming method;

forming a piezoelectric/electrostrictive film (A) on said electrode film (A) by a second film forming method;

forming an electrode film (B) on said piezoelectric/electrostrictive film (A) by said first film forming method;

repeating the steps of forming said piezoelectric/electrostrictive film (A) and electrode film (B) one or more times;

forming a piezoelectric/electrostrictive film (B) on said electrode film (B) by said second film forming method;

forming an electrode film (C) on said piezoelectric/electrostrictive film (B) by said first film forming method; and

sintering said piezoelectric/electrostrictive films and/or said electrode films a predetermined number of times at arbitrary times between said step of forming said electrode film (A) and said step of forming said electrode film (C).